Concepts from the January Fellowship

Don't get ready, get started!

Check out these selected concepts created in our January fellowship program for quick look at what you'll be building.

Bernard

A companion for the elderly, helping minimize the likelihood and consequences of falls.

TECHNOLOGIES
AI, IoT

DOMAINS
Health, Core Tech

SESSION
Winter 2017, CAM

OVERVIEW

Bernard is a fully modular system of sensors feeding data into a federated brain which can detect falls, interact with the elderly user, and notify the appropriate 3rd parties. The sensors can be thought about in 3 categories: wearables that go with the person as they move through the world, stationary sensors that are placed in the home, and external data sources such as weather and medical history. Bernard's capabilities include monitoring, logging, user interaction, and notification.

For the elderly population, many live in isolation without any kind of social interaction. Interacting with a Google Home or Alexa is a step in the right direction, but not ideal. This is because they are made more for order and command, as opposed to conversation and relationship building. For elderly, a more suited solution is something conversational that gives them not just response, but can prompt convos ("How are you doing today?").

From the perspective of the child of an elderly, the preferred priority of who gets notified (them vs. 911) seems to be dependent on their context and what they have recently experienced (i.e. it's not standardized). In all cases, though, - if they are confident in the system's accuracy, then they would be ok with the system dynamically making the determination. - The child would still like some sort of summary of events that happened, even if they aren't contacted first, just so they can be aware.

DETAIL SHOTS

V. Pharm

A virtual pharmacist that manages inventory across a distributed network.

TECHNOLOGIES
AI, IoT

DOMAINS
Health, Food

SESSION
Winter 2017, CAM

OVERVIEW

Our prototype takes the form of a cardboard prototype of our V.Pharm tray in conjunction with an API.ai chatbot available via the Google Home. The tray demonstrates the modularity of our system because it could be placed in existing drug inventory cabinets. It is three light sensors connected to an arduino, connected to a nodejs process running locally on a mac os that continually sends http requests to a php application running on an aws server. The php application handles application logic and updating our database to maintain the physical state of the tray. The user "uses" drugs by saying so to the Google Home and can order more drugs through it as well.

WHAT DID WE LEARN?

1. Voice interfaces are welcoming and exciting to users when they see them in use.
2. The concept of building a connected network of inventory seems desirable.
3. Subject matter experts saw many applications for voice in combination with smart inventory.

DETAIL SHOTS

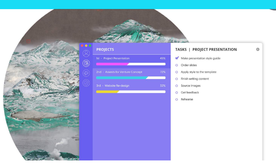
Fulcrum

Sensing and Machine learning of behavioral data to improve productivity and collaboration throughout the workday.

TECHNOLOGIES
AI, IoT

DOMAINS
Work

SESSION
Winter 2017, SF



OVERVIEW

Fulcrum is a platform that helps individuals on teams optimize their workflow by utilizing real-time sensing of behavioral data and machine learning to capture task progress and surface optimal actions to improve productivity and collaboration throughout the workday.

You have your to-do list. We surface insights to help you shape a more fulfilling work process by: Augmenting individual awareness of productivity; Surfacing ideal moments for collaborative problem-solving; Creating a living artifact of your competencies & working style. Our sensor-based technology uses machine learning techniques to interpret facial recognition, on-screen behavior, physiological and tactile inputs captured from IoT devices to help you work better with your network.

Both managers and individual contributors are uncomfortable with work environments in which companies are essentially "Big Brother/machine overlords" and tracking their every move, additionally, managers prefer not to micromanage, rather they'd like their employees to be as empowered as possible to get their jobs done There are already many task-management & productivity digital services, so our AI needs to provide value beyond simple task management and allocation of work.

DETAIL SHOTS

Emergency Mode

A system to connect civilians to emergency services, medical services, and critical supplies through the use of evactuation pathways.

TECHNOLOGIES
IoT, Nomad

DOMAINS
Health, Citizenship

SESSION
Winter 2017, SF

OVERVIEW

An emergency messaging infrastructure that leverages ShakeAlert™, an early earthquake warning system that can confidently predict an earthquake within 3-10 seconds before it hits, to alert civilians in a disaster zone and then guide them to a shelter for food, water, medical assistance, and evacuation. When the an earthquake strike is predicted, mobile devices in the disaster zone automatically enter Emergency Mode which begins a countdown until the strike with a notice to seek shelter. After the disaster has stuck, a message appears asking if the users need medical services. This emergency This system leverages a cheap, low power repeater called a "Black Box" that uses 800MHz radio signal to send critical needs data to dispatch centers across a city or neighborhood. Once an evacuation center has been established, a notice is transmitted to help guide users to shelters.

WHAT DID WE LEARN?

1. Consider repurposing existing technologies to maximize cost efficiency and adoption.
2. Understand the implications of a coordinated economy for the rich and go beyond the Western, Educated, Industrialized, Rich, and Democratic (WEIRD) societies bias.
3. In what ways do existing systems and pitched solutions prioritize individual jobs?

DETAIL SHOTS